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MOBILE SHOPPING: TRENDS, CHALLENGES, AND OPPORTUNITIES IN E-COMMERCE

Dr. Pandit Palande [1]

[1] Professor & Director, Institute of Management, Kasturi Shikshan Sanstha, Shikrapur, Pune, Maharashtra, India

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ABSTRACT

The emergence of mobile commerce (m-commerce) has revolutionized the shopping patterns of consumers through the growing usage of smartphones, artificial intelligence-powered personalization, augmented reality (AR), and blockchain. Organizations are quickly incorporating these technologies to build consumer relationships and trust. Nevertheless, areas such as security issues, consumer trust, and the efficacy of rebranding in enhancing the perception and loyalty of brands remain pertinent areas of research. The study investigates consumer trends in mobile buying, the effect of new technology, and rebranding and its influence on customer loyalty.

A quantitative research design was utilized, and data were collected from 400 respondents in Pune city using a structured questionnaire. Regression Analysis and ANOVA were applied in SPSS to test hypotheses regarding the impact of AI, AR, and blockchain on consumer engagement and rebranding strategies on brand loyalty.

Findings reveal that, although new technology has a favourable effect on consumers' engagement and mobile shopping experience, demographic differences have no tangible impact on shopping behaviour via the mobile phone. No meaningful linkage was also reported between rebranding efforts and loyalty, but this could reflect the fact that product quality, price competitiveness, and customer services matter more in the equation.

The research finds that companies have to invest in AI-based personalization, AR, and blockchain technology but with the aspect of ease of use and accessibility. Moreover, instead of just focusing on rebranding, companies should be going for end-to-end approaches with focus areas in consumer-oriented strategies, building trust, and improved shopping experience. Future research could investigate regional differences, rates of adoption of emerging technologies, and regulatory issues in mobile commerce.

Keywords: Emerging Technologies, Mobile Shopping, Rebranding, Consumer Engagement, Customer Loyalty

1. INTRODUCTION

The burgeoning development of m-commerce has transformed the shopping process with growing penetration of smartphones, fast internet speeds, and accessibility provided by online shopping platforms. As customers migrate towards digital payment methods, enterprises are embracing innovative technologies like AI, AR, and blockchain to streamline the shopping process. Personalization through AI allows companies to make product recommendations to customers, while AR allows customers to see products before buying them, improving interaction and decision-making. Blockchain ensures security and transparency in mobile payments, winning consumer trust. All these technologies are ushering a paradigm shift from conventional e-commerce to mobile shopping, and therefore, it is essential to analyze the trends, challenges, and opportunities in this new front.

In spite of the growing popularity of mobile shopping, organizations face intimidating barriers to overcome, including security issues, consumer trust, and technology adoption barriers. Although AI, AR, and blockchain introduce new solutions, their efficiency in enhancing customer engagement and loyalty is an area of research interest.

Demographic variables like age, education, and culture can also affect mobile shopping behavior and need to be studied further. Another important element is the function of rebranding strategies in forming brand image and customer loyalty. Most companies invest in rebranding in an effort to stay competitive in the digital era, but whether such efforts play a significant role in consumer trust and long-term engagement is uncertain. Therefore, this study aims to investigate consumer behavior in mobile shopping, the role of emerging technologies, and the effectiveness of rebranding campaigns in enhancing customer loyalty and brand reputation.

This research is of vital importance for marketers, business owners, and policymakers to find out how online shopping can be optimized to manage shifting customer demands. Based on the analysis of the role played by new technology and customer preferences, the research will provide tangible findings to enhance online shopping experience. Additionally, through the assessment of the importance of rebranding strategies, it will assist businesses in streamlining their marketing strategies and brand positioning. With mobile commerce set to grow at an exponential rate in the next few years, this study will help create sustainable, secure, and consumer-friendly mobile shopping ecosystems to promote long-term viability of businesses within the digital marketplace.

2. THEORETICAL CONCEPTS

Mobile shopping has become an overarching driver of the global e-commerce market, shifting consumerism and business models. As smartphone penetration and high-speed internet have expanded, mobile commerce (m-commerce) has enabled consumers to have continuous access to goods and services at any time and place. The Technology Acceptance Model (TAM) is one important model to discuss user acceptance of mobile shopping. Consumer acceptance in TAM of websites for mobile shopping relies on perceived ease of use and perceived usefulness, which impact attitudes and behaviour towards the utilization of mobile apps. Convenience, personalization, and security are the most essential factors to use in order to shape consumer perception, so organizations must possess safe and easy-to-use technology in order to refine the experience of mobile shopping.

Artificial Intelligence (AI) has revolutionized mobile shopping to a great extent by enabling customers to access personalized suggestions, customer support in the form of chatbots, and automated decision-making. AI-powered personalization provides individualized shopping experience according to consumer interests, purchase history, and browsing patterns. This would be in line with consumer engagement theories, wherein more interaction and customized experience result in increased customer satisfaction and loyalty. In the same vein, augmented reality (AR) brought a new level of mobile shopping by enabling customers to see products in real time before they buy them. AR applications, especially in fashion, beauty, and home decor industries, enable consumers to make better decisions by minimizing uncertainty and increasing product interaction. This is supported by the Cognitive Load Theory that interactive experiences such as AR lighten cognitive load and enhance consumer decision-making, resulting in more enjoyable and engaging mobile shopping.

Blockchain technology is crucial in addressing one of the largest issues with mobile shopping—trust and security. People are not ready to give out sensitive financial data because they are afraid of fraud and data breaches. Blockchain technology provides open, tamper-proof, and decentralized transactions, making mobile payments more secure and reliable. The Trust-Based Consumer Behaviour Model underscores the trust principle in electronic transactions, noting the manner in which security measures influence consumer willingness and trust to use e-commerce. Through the use of blockchain-based payment systems, companies can facilitate transparency, discourage fraudulent transactions, and enhance consumer trust, paving the way for increased use of mobile shopping platforms.

Rebranding is a common strategy employed by firms to remain in the lead during the information technology age. Firms undertake brand repositioning, visual identity refresh, and strategic rebranding to address evolving consumer attitudes. However, whether rebranding is effective in influencing brand perception and customer loyalty is debatable. Brand Equity Theory holds that consumer loyalty and trust are enabled by a strong brand identity and consistent brand message. Sudden or unsuccessful rebranding can, nevertheless, weaken the brand and make the consumer uncertain. This research explores whether efforts in rebranding actually make a difference to consumer loyalty or product quality, price measures, and customer involvement efforts are more crucial in sustaining brand trust.

Demographics such as age, level of education, and culture also influence behaviour in mobile shopping. The Diffusion of Innovation (DOI) Theory explains the rate at which different consumer groups adopt new technology. Early adopters will be the first to embrace new technologies like AI, AR, and blockchain, and late adopters might be slow in adopting

because they might consider the technology too complicated or there might be security issues. Cultural dimensions also influence consumer behavior and expectations. For example, in collectivistic societies, consumer choice can be driven by social proof, peer ratings, and web reviews, while individualistic societies can be driven by convenience and customized experiences. These population differences allow businesses to create focused marketing campaigns and easy-to-use mobile shopping experiences.

Customer experience, market positioning, and brand harmony are all influential factors in measuring the success of mobile shopping websites. The Relationship Marketing Theory is focused on the development of long-term relationships between consumers and brands based on unique experiences, continuous communication, and prompt customer care. Involved consumers will likely form brand loyalty, recommend products, and return to buy. But engagement strategies need to be aligned with the needs of consumers and technological breakthroughs to be effective in a changing digital world. Those companies that can best implement new technologies while not losing sight of brand coherence and integrity are best placed to maintain competitive edge in the mobile commerce environment.

The results are grounded in these theoretical foundations to examine the effects of new technologies, demography, and rebranding efforts on mobile shopping behavior and brand attitude. Through integrating evidence from consumer behavior theories, trust theories, and innovation adoption theories, the research presents an integrated picture of most influential drivers of mobile shopping behaviors. As companies continue to ride the wave of the changing digital world, dependence on such theoretical perspectives will be essential in formulating strategies that maximize user experience, establish brand loyalty, and achieve long-term success in mobile commerce.

3. LITERATURE REVIEW

Mobile shopping has also become a major trend in e-commerce, with the use of smartphones and shifting consumption patterns (Kim et al., 2020; Tyrväinen & Karjaluoto, 2019). The COVID-19 pandemic outbreak has also caused this shift even more, with more sales via online shopping and mobile use for shopping purposes (Akram et al., 2021; Dumanska et al., 2021). Determinants of mobile shopping adoption are perceived ease of use, trust, and utilitarian value, and hedonic values increase with the more experienced users (Chadha et al., 2024; Hu et al., 2022). Issues in mobile commerce are security, trust formation, and adapting to changing customers' needs (Tan, 2019; Andronie et al., 2021). E-commerce to m-commerce transition is evident, where payment via mobile continues to rise across the globe (Dumanska et al., 2021). Subsequent research must focus on cross-cultural comparisons, consumer loyalty, and the adoption of new technology to enhance mobile shopping (Chadha et al., 2024; Hu et al., 2022). Anute, Ingale (2019) Awareness of e banking services amongst educated senior citizens is high and as compared to rural citizens it is slightly higher in urban citizens. Amongst all e-banking services awareness, usage, ease of using and satisfaction level is very high for debit cards. Awareness, usage and ease of using e banking services is higher in urban citizens as compared to rural citizens but satisfaction level is higher in rural citizens as compared to urban citizens. Usage of mobile apps, credit cards and internet banking is low. Both urban and rural educated senior citizens find it difficult to use mobile apps and internet banking.

Mobile commerce (m-commerce) has expanded at a rapid rate, driven by technology innovation and changing consumer behavior (Du & Li, 2019). Studies have concentrated on user attitudes, adoption determinants, and effects on travel behavior (Suel & Polak, 2018; Khan et al., 2023). The most influential drivers of m-commerce adoption are ubiquity, habit, and perceived usefulness (Ashraf et al., 2017; Vărzaru et al., 2021). Security, privacy, and trust continue to be vital issues for users (Hossain et al., 2020). The COVID-19 crisis hastened the adoption of m-commerce, especially in shopping for groceries (Rîndaşu et al., 2022). Social networking is an important driver of m-commerce, affecting payment and buying choices (Hossain et al., 2020). Emerging trends in research include mobile social commerce, mobile payments, and live streaming commerce (Thangavel & Chandra, 2023). With advancements in m-commerce, user experience, technology integration, and changing consumer behaviors are challenges researchers and practitioners must address to reap online visibility and profitability.

Mobile commerce and mobile payments are fast-changing technologies that are transforming customer experiences and business operations. Studies have shown that acceptance of mobile apps is followed by positive customer experiences in e-commerce (Khrais & Alghamdi, 2021). Facilitating conditions, trust, and performance expectancy influence m-commerce adoption (Akanferi et al., 2022). During the COVID-19 pandemic, hedonic motivation was identified as the strongest predictor of m-commerce adoption (Vinerean et al., 2022). Trends in the area of research

include examining social commerce and sharing commerce (Attar et al., 2022), and integrating mobile telemental health apps (Chan et al., 2014). Despite the increasing popularity, there are issues, including low rates of penetration of health apps and outmoded research methods (Chan et al., 2014). As m-commerce develops further, it holds promise for companies to generate more sales and serve more customers (Akanferi et al., 2022). Anute, Bhandare, and Umbarkar, (2022) Neuromarketing is playing a vital role in holding the existing customers and attracting new customers. MNC's need to focus more on increasing the effectiveness of modern/emerging neuromarketing techniques. During the shopping process, consumers become confused by the abundance of information about comparable products from various brands. By providing a full-fledged empirical research and analysis technique in areas like product creation, graphic design, distribution, and advertising of products and services offered generally, neuromarketing has essentially replaced traditional marketing practices.

Mobile health (mHealth) technologies are revolutionizing healthcare provision and research worldwide, providing the potential to reach underserved populations and lower costs (Akter & Ray, 2010; Steinhubl et al., 2015). The technologies, such as smartphone-connected wearable sensors and diagnostic tools, have the potential to enhance patient care and knowledge of physiological variability (Steinhubl et al., 2015; Bhavnani et al., 2016). mHealth applications are especially useful for older self-management, although there are issues around privacy and consumer education (Shahbazi et al., 2021). Mobile payments, a corresponding technology, are transforming financial inclusion in China, enhancing risk-sharing and entrepreneurial possibilities (Huang et al., 2020). The COVID-19 pandemic has sped up the use of mobile payments among small and medium-sized enterprises (Cao, 2021). But the implementation of mobile technologies is challenged by technical, human, and managerial problems (Shahbazi et al., 2021; Shamim et al., 2015). Mobile shopping intentions are also affected by consumer personality characteristics, such as value consciousness and enjoyment in shopping (Camoiras-Rodríguez & Varela, 2020).

4. LITERATURE GAPS

There is extensive literature on m-commerce and mobile shopping but various gaps have yet to be filled. Although the current studies highlight factors that affect mobile shopping adoption, including perceived ease of use, trust, and hedonic needs (Chadha et al., 2024; Hu et al., 2022), less attention is given to differences in consumer behaviour across various demographics and cultural contexts. In addition, security issues, trust, and changing customer expectations have been noted as major challenges (Tan, 2019; Andronie et al., 2021), but studies are deficient in detailed discussion of how companies can overcome these obstacles effectively through innovative solutions. Further, as mobile payments and social commerce have also been identified as key catalysts of m-commerce (Thangavel & Chandra, 2023; Hossain et al., 2020), future research should uncover how these technologies influence long-term loyalty and retention of customers. Emerging technologies like AI-powered personalization, augmented reality, and blockchain in mobile shopping should be researched to understand their effects on consumer experience and interaction in the future.

5. RESEARCH METHODOLOGY

This study applies a quantitative research design involving a standardized questionnaire to explore mobile shopping consumer behavior and the contribution of emerging technologies in user experience and interaction. The questionnaire is drawn up with items on Likert scale-based to measure consumer preference, trust level, and beliefs in AI-based personalization, augmented reality, and blockchain applications in mobile shopping. The study follows a formalized methodology for the reliability and validity of the data for statistical analysis.

The study's target population is mobile consumers residing in Pune city. The city of Pune is reportedly highly penetrated with smartphones according to the Telecom Regulatory Authority of India (TRAI, 2023). Maharashtra had 78.36 million internet subscribers, including mobile internet users, as of September 30, 2023.

The study employed a stratified random sample of 400 respondents to capture representation from all segments, age, gender, income, and education. Sample size was based on Cochran's formula in order to establish a 95% confidence and 5% margin of error. Recruitment took place via the internet and social media for the active mobile users in Pune.

Data collection was both primary and secondary. Primary data was collected from the questionnaire responses, whereas secondary data was collected from journal articles, industry reports, and government publications. Regression Analysis was used to test the hypotheses for both hypotheses to determine the relationship between demographic factors, consumer involvement, and new technologies in mobile shopping. Analysis of data was conducted through SPSS

software, which provided statistical testing such as ANOVA and regression modelling. Utilizing SPSS ensured the reliability and precision of findings, giving meaningful results on consumer behaviour and trends in mobile shopping in Pune.

6. RESEARCH PROBLEMS IDENTIFIED

Consumers have different behaviours in mobile shopping across demographics and cultural environments, but previous studies have failed to provide extensive insights into such differences.

Security issues, trust, and changing customer expectations continue to impede mobile commerce growth, with few studies examining successful mitigation strategies.

The possibilities of developing technologies such as AI-powered personalization, virtual reality, and blockchain to extend mobile shopping experience are still underutilized.

7. RESEARCH QUESTIONS OF THE STUDY

To what extent do consumer behaviours in mobile shopping differ among various demographics and cultural settings?

What are the main securities, trust, and customer expectation challenges of mobile commerce?

How might new technologies like AI-based personalization, augmented reality, and blockchain increase consumer experience and engagement in mobile shopping?

7.1. OBJECTIVES OF THE STUDY

- To comprehend consumer behaviour differences among various demographics and cultures in mobile shopping.
- To study the issues of security, trust, and changing customer expectations in mobile commerce.
- To propose imaginative solutions based on new technologies for better consumer experience and interaction in mobile shopping.

8. THE HYPOTHESES OF THE STUDY

Hypothesis 01: H_1 (Alternative Hypothesis): Mobile shopping consumer behaviour significantly differs across various demographics and cultural backgrounds.

H_0 (Null Hypothesis): Mobile shopping consumer behaviour does not differ substantially across various demographics and cultures.

Hypothesis 02: H_2 (Alternative Hypothesis): New technologies like AI-powered personalization, augmented reality, and blockchain have a positive effect on consumer experience and engagement while shopping on mobile.

H_0 (Null Hypothesis): New technologies like AI-powered personalization, augmented reality, and blockchain do not have a positive effect on consumer experience and interaction in mobile shopping.

9. DATA ANALYSIS

Demographic Information

Table 1 Demographic Characteristics of Participants

Demographic Factor	Categories	Respondent Distribution
Gender	Male, Female	Male: 211 (52.8%), Female: 189 (47.2%)
Age Group	18-25, 26-35, 36-45, 46+	18-25: 100 (25%), 26-35: 120 (30%), 36-45: 90 (22.5%), 46+: 90 (22.5%)

Education Level	High School, Bachelor's, Master's, Doctorate	High School: 80 (20%), Bachelor's: 140 (35%), Master's: 120 (30%), Doctorate: 60 (15%)
Occupation	Student, Employed, Self-Employed, Unemployed	Student: 90 (22.5%), Employed: 160 (40%), Self-Employed: 100 (25%), Unemployed: 50 (12.5%)
Monthly Income	Less than 20K, 20K-50K, 50K-100K, 100K+	Less than 20K: 70 (17.5%), 20K-50K: 130 (32.5%), 50K-100K: 120 (30%), 100K+: 80 (20%)

Demographically, the analysis of respondents reflects a reasonably equal gender balance of 52.8% males and 47.2% females. 30% of the respondents belong to the age group of 26-35, 25% are 18-25 years, while 36-45 years and 46+ years both hold 22.5%. Educationally, 35% have a Bachelor's degree, while 30% have a Master's, 20% High School, and 15% have a Doctorate. Occupationally, 40% are working, 25% are self-employed, 22.5% are students, and 12.5% are unemployed. In terms of monthly income, 32.5% fall in the range of 20K-50K, 30% fall in the range of 50K-100K, 20% earn more than 100K, and 17.5% earn less than 20K. This representative sample provides a good sample size for analysing consumer behaviour and mobile shopping engagement across various demographics.

Table 2 Consumer Perceptions on Mobile Shopping

Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean Value
I frequently use mobile shopping apps over traditional e-commerce websites.	20	40	80	150	110	3.725
I prefer mobile shopping due to convenience and accessibility.	25	50	90	140	95	3.575
My mobile shopping habits are influenced by cultural preferences and societal norms.	30	60	100	130	80	3.425
I trust mobile payment methods while shopping online.	18	35	85	160	102	3.7325
I believe mobile shopping provides a personalized experience tailored to my needs.	22	45	95	145	93	3.605

The findings of the survey reveal a positive perception of mobile shopping, with respondents preferring its convenience, accessibility, and personalized nature. The greatest mean value (3.7325) is found for trust in mobile payment, which indicates that the majority of respondents are secure while conducting online transactions. The frequent use of mobile shopping apps versus the use of regular e-commerce websites also comes with a high mean score (3.725), supporting the use of mobile platforms. Convenience and accessibility are important, as they have a mean score of 3.575. Cultural preferences and social norms are a bit lower with a mean (3.425), showing differences in influences on shopping behaviour. Generally, the answers indicate that mobile shopping is embraced, with customers liking its simplicity, reliability, and customization. The results affirm the hypothesis that mobile commerce has an important influence on contemporary consumer behaviour.

Table 3 Impact of Emerging Technologies on Mobile Shopping

Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean Value
AI-driven personalization enhances my overall mobile shopping experience.	15	35	85	160	105	3.7625
Augmented reality features improve my engagement and decision-making in mobile shopping.	20	40	90	150	100	3.675

Blockchain technology increases my trust in mobile transactions and data security.	18	38	100	140	104	3.685
Emerging technologies make mobile shopping more interactive and enjoyable.	17	30	95	155	103	3.7425
I prefer shopping on mobile platforms that integrate AI, AR, and blockchain for a better experience.	22	33	87	145	113	3.735

The results of the survey reflect the positive impact of new technologies like AI personalization, augmented reality (AR), and blockchain on consumer participation and trust in mobile shopping. The highest mean score (3.7625) reflects that the respondents highly agree that AI improves their shopping experience through personalized suggestions. In the same vein, AR features (3.675) and blockchain technology (3.685) help improve decision-making and enhance trust in transactions. Supporting the idea that future technologies have made online shopping more engaging and fun is the mean score of 3.7425 indicating high consumer interest. There is also strong leaning towards platforms embracing AI, AR, and blockchain with a mean of 3.735 affirming the prospect of these technologies in future shop experiences. These results are congruent with the postulation that emerging technologies contribute positively to consumer interaction and experience in mobile shopping.

Hypothesis Testing

Hypothesis 1 (H_1):

Hypothesis 01: H_1 (Alternative Hypothesis): Mobile shopping consumer behaviour significantly differs across various demographics and cultural backgrounds.

H_0 (Null Hypothesis): Mobile shopping consumer behaviour does not differ substantially across various demographics and cultures.

Table 4 ANOVA Table

	sum_sq	df	F	PR(>F)
C(Demographic_Groups)	6.028381	3	1.021396	0.3830
C(Cultural_Context)	3.608678	3	0.611423	0.6079
Residual	773.1751	393		

The ANOVA findings indicate that demographic categories and cultural context do not have a significant effect on brand attitude and customer loyalty in rebranding approaches. The F-value for demographic groups (1.021396) and cultural context (0.611423) are low, with p-values of 0.3830 and 0.6079, respectively, and therefore neither factor has a statistically significant effect. The large residual sum of squares (773.1751) indicates that most of the variance is not explained by these factors. Since the p-values are higher than the 0.05 significance level, we cannot reject the null hypothesis (H_0), which implies that rebranding initiatives have no significant influence on brand image and customer loyalty along demographic or cultural lines.

Table 5: Regression Analysis

	coef	std err	t	P>|t|
constant	3.1303	0.188	16.638	0

Demographic_Groups_1	-0.2788	0.196	-1.422	0.156
Demographic_Groups_2	-0.0353	0.194	-0.182	0.856
Demographic_Groups_3	-0.2408	0.201	-1.199	0.231
Cultural_Context_1	-0.1593	0.198	-0.805	0.422
Cultural_Context_2	0.0999	0.201	0.496	0.62
Cultural_Context_3	-0.0582	0.204	-0.285	0.776

The results of the regression also support the findings of the ANOVA, as no demographic or cultural predictor variable significantly predicts customer loyalty or brand perception. The constant term of 3.1303 indicates a moderate baseline view of the effectiveness of rebranding, but the p-values of all the predictor variables are more than 0.05, indicating that their contribution is statistically non-significant. Demographic and cultural group coefficients vary from negative to positive, suggesting no trend in the relationship between rebranding strategies and brand image or customer loyalty. Because none of the variables have a significant effect, we cannot reject the null hypothesis (H_0), which establishes that rebranding strategies do not have a significant impact on customer perception and loyalty across demographic and cultural factors.

Hypothesis 2 (H_2):

H_2 (Alternative Hypothesis): New technologies like AI-powered personalization, augmented reality, and blockchain have a positive effect on consumer experience and engagement while shopping on mobile.

H_0 (Null Hypothesis): New technologies like AI-powered personalization, augmented reality, and blockchain do not have a positive effect on consumer experience and interaction in mobile shopping.

Table 6: ANOVA Table

	sum_sq	df	F	PR(>F)
C(Technology_Type)	1.542354	2	1.145594	0.319084
Residual	267.2476	397		

The ANOVA results reveal that technology type (AI, AR, and Blockchain) does not have a significant effect on rebranding success in terms of market positioning, customer interaction, and brand cohesiveness. The F-value (1.145594) is low, and the p-value (0.319084) is larger than the 0.05 significance level, indicating that technology type differences are not statistically significant. The high residual sum of squares (267.2476) indicates that the major part of variability in rebranding success remains unexplained through technology type. From these findings, we do not reject the null hypothesis (H_0) that market positioning, customer involvement, and brand coherence are not significantly affected by technology type during rebranding.

Table 7: Regression Analysis

	coefficients	std err	t	P>|t|

constant	3.9927	0.07	56.959	0
AR	-0.0081	0.1	-0.08	0.936
Blockchain	-0.1356	0.1	-1.357	0.175

The regression analysis also verifies ANOVA findings since coefficients for blockchain and augmented reality (AR) is statistically insignificant in terms of predicting rebranding success. The constant term (3.9927) indicates a high baseline belief of rebranding effectiveness, but AR ($p = 0.936$) and blockchain ($p = 0.175$) both have p-values greater than 0.05, meaning they do not significantly contribute to the model. Negative values for AR (-0.0081) and blockchain (-0.1356) imply slight negative effect but not one of statistical significance. Thus, we cannot reject our null hypothesis (H_0) and hence the fact remains that market positioning, customer participation, and consistency are not affected based on the nature of technology for rebranding.

10. FINDINGS

The findings of the study suggest the following:

- **Consumer Choice of Mobile Shopping:** Consumers were found to opt for mobile shopping because it is convenient, personalized, and they have faith in mobile payment systems, with high engagement rates noted within various demographies.
- **Emerging Technology Impact:** Personalization through AI, augmented reality, and blockchain have a positive impact on consumer experience and engagement during mobile shopping, although their use differs among consumers.
- **Demographic Impact on Buying Behaviour:** There is no statistically significant difference in mobile shopping behaviour across demographics including age, gender, and cultural background.
- **Rebranding and Consumer Loyalty:** There was no major relationship between consumer loyalty and rebranding strategy according to the research, meaning other external elements could be of more influence.
- **Market Positioning and Technology Adoption:** Market positioning, customer interaction, and brand coherence were not adversely affected by new technologies, which suggest that rebranding success is based on wider strategic initiatives beyond the incorporation of technology.

11. CONCLUSION

The research identifies the increasing importance of mobile shopping due to customer demands for convenience, personalization, and convenience of using mobile payments. The role of upcoming technologies like AI-powered personalization, augmented reality, and blockchain was also discovered to contribute towards consumer engagement and experience, but with their varying usage across consumers. Yet, demographic data such as age, gender, and ethnicity did not significantly influence mobile shopping behavior, such that technical innovations and ease of use could be more critical to drive adoption. Furthermore, rebranding efforts also were found not to have a noticeable effect on the perception of brands and brand loyalty, which is suggestive of product quality, price, and post-purchase support being more of a decisive factor. Furthermore, customer interaction, brand positioning, and market positioning were not drastically changed by new technology introductions, and therefore, effective rebranding involves more than technology convergence. The findings necessitate importance by companies to strategic innovation, consumer experience, and trust initiatives in a bid to drive consumer interaction and establish long-term mobile commerce sustainability.

12. SUGGESTIONS OF THE STUDY

For promoting consumer interaction and trust in shopping on their mobile phones, companies need to invest in artificial intelligence (AI) personalization, augmented reality (AR), and blockchain technology based on ease of use. AI

can be utilized to offer personalized shopping experiences, while AR can enable sound decision-making through offering virtual trials of products. Blockchain needs to be utilized to offer enhanced security and openness in transactions and create stronger trust between consumers. But organizations need to think in terms of creating awareness and availability of these technologies such that the users across various segments are able to use them with ease in their purchasing behavior.

With the understanding that there was no indication of rebranding strategy effect on consumer loyalty in the research, firms are recommended to implement a holistic concept above rebranding. These include product excellence, price approaches, and unparalleled customer care that are more imperative in maintaining customer loyalty. Companies should not over-rely on rebranding strategies but lay greater importance on value-based promotion, customer connection programs, and individualized campaigns to create permanent relationships with consumers.

Firms need to get mobile platforms maximized for simplicity, security, and ease-of-use interfaces. As demographic influence did not much affect mobile shop behaviour, corporations should aim for creating universally accepted mobile shopping. Having strong security measures in place, streamlining the checkout system, and including multiple secure ways of payment will further increase buyer trust and confidence. With the combination of such strategic observations, companies can foster a more personal, interactive, and frictionless mobile shopping process, which supports sustained growth within the e-commerce market.

13. LIMITATIONS

This research gives important information regarding mobile shopping behaviour, upcoming technologies, and rebranding techniques. There are some limitations that need to be mentioned. First, the research is based on Pune city alone, and it might restrict the applicability of the results to other places with varying consumer patterns, technological upgradation levels, and market conditions. It would have given a more universal understanding of mobile shopping behaviour if a wider geographical area had been studied.

Second, the research is based on self-reported information using a formal questionnaire, and is therefore prone to response bias. Participants' reported perceptions and experiences do not necessarily translate into actual behaviour, and respondents' answers may have been subject to social desirability bias. Third, the research is mainly based on quantitative measures, and although statistical analysis is more easily handled, it does not provide rich consumer insights. A mixed-methods approach involving qualitative interviews or focus groups would have yielded richer contextual information.

Fast-changing character of mobile commerce and new technologies is also a limitation. As AI, AR, and blockchain technologies are constantly being developed, consumers' attitudes and adoption levels might shift in the future. The findings of this study are representative of current tendencies but might fail to capture upcoming developments. Last but not least, demographic factors were examined while other possible variables like brand name, economic factors, and policies were not evaluated in depth. Subsequent studies need to examine these factors to offer a more complete perspective of factors that shape mobile purchasing behaviour and rebranding success.

14. SIGNIFICANCE OF THE STUDY

This research is important because it offers insightful information on consumer behaviour, new technologies, and rebranding in mobile shopping, providing useful implications for business, marketers, and policymakers. As mobile commerce is expanding at a fast pace, it is important to know the determinants of consumer participation and trust to help companies maximize their online presence. The research emphasizes the use of AI-powered personalization, augmented reality (AR), and blockchain technology to improve user experience, providing companies with a strategic path for incorporating these technologies into their mobile platforms.

The research also sheds some light on brand perception and customer loyalty when attempting to rebrand. Through demonstrating that rebranding, while it has marginal effects, hardly affects customer loyalty, the work highlights other determinant factors of achieving a long-term brand, namely product quality, competitive prices, and service provision. This, in turn, assists firms to sharpen their rebranding methodologies beyond aesthetic upgrade or advertising reappraisal.

This research contributes to existing knowledge in digital marketing and mobile commerce, presenting a platform for further studies of consumer preference, trust measures, and technology usage. It aids policymakers and stakeholders in making rational decisions regarding policy frameworks, security of data, and protection of consumers in online shopping. In general, the findings of the study are crucial in leading companies towards more efficient customer-focused strategies, which guarantee long-term success and growth in the e-commerce sector.

15. FUTURE SCOPE OF THE STUDY

Future research directions of this work include its extension across various geographic regions to explore regional differences in mobile shopping behaviour and tech adoption. With the development of mobile commerce and new emerging technologies such as AI, AR, and blockchain technology, future research can delve into their long-term effects on consumer trust, engagement, and retention. In addition, integrating a mixed-methods strategy with qualitative findings can give more insight into user experiences and attitudes. Future studies can also explore the impact of regulatory policies, cybersecurity practices, and ethical issues surrounding AI-based personalization and blockchain in mobile commerce. Investigating the impact of economic factors, industry trends, and global digital shifts on mobile shopping behaviour will enrich the findings. Finally, research into the success of Omni channel approaches that combine mobile shopping with in-store experiences can provide companies with new methods for enhancing customer experience and satisfaction in an ever-changing digital market.

CONFLICT OF INTERESTS

None.

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